

margin ; the general distribution of these markings, therefore, is similar to that of *A. echeria*, but their relative proportions are more nearly as in *A. lobengula* ; the quadrifid spot beyond the cell is, however, different in character from that of all the known species : secondaries browner, sericeous towards anal angle, and with the sexual patch somewhat ill-defined ; an elbowed ochreous belt occupying the basal two fifths and traversed by the black subcostal vein and part of its first branch ; a discal irregular series of eleven large ochreous spots, of which the first, sixth, and eighth are distinctly larger than the others ; a nearly marginal series of seven to eight dots in pairs, commencing from the second subcostal vein : body pitchy black-brown, with two white points on the head. Wings below brown, the apical area of the primaries and outer three fifths of the secondaries somewhat olivaceous ; all the ochreous markings paler than above, and several additional small spots or dots near to the outer margin in all the wings.

Expanse of wings 80 millim.

Two male examples.

Perhaps the most distinctive characters in this species are the position of the ochreous belt of the secondaries at, instead of a short distance from, the base, the consequent widening of the dark external area, and the great size of the spots of the discal series on these wings, reminding one of *Tirumala limniace*.

#### BIBLIOGRAPHICAL NOTICE.

*Manual of Conchology, Structural and Systematic.* Second Series.—*Pulmonata.* Vol. IX. By H. A. PILSBRY. 8vo. Philadelphia, 1894.

A LONG-FELT want has been experienced by the conchological student of a sound arrangement and classification of that enormous assemblage of mollusks familiarly known as Helices. Many classifications have from time to time been proposed, but experience has shown them to be more or less unsatisfactory. Being based to a great extent upon conchological characters, or characters derived from the study of some special organ, this might naturally be expected: Perhaps the best of these arrangements was that worked out by Dr. E. von Martens in the second edition of Dr. J. C. Albers's 'Die Heliceen.' Although this work has held its own for some thirty years past, and, to a great extent, formed the basis of the last system of classification—that of Dr. L. Pfeiffer—it has long

proved inadequate to the requirements of systematists. The great increase in the number of known species, and the numerous new types which have been discovered of recent years, together with the increased knowledge of the anatomy of a large number of forms, have rendered those old classifications more or less obsolete. The volume before us will therefore be most acceptable to conchologists, for it not only furnishes us with an up-to-date classification, but one which is based upon an extensive study of the soft parts, besides those ordinal characters which may be found in the shells also. This system is not founded upon the modifications of a single organ, such as the jaw, the radula, or the shell, but all the organs of the animal, internal and external, have been taken into account with very gratifying results. The author has not only taken advantage of the anatomical researches of others, but himself has prepared more than five hundred dissections.

The two families Endodontidæ and Helicidæ are treated of in this volume. The former is divided into two tribes or sections—Polyplacognatha and Haplogona—respectively containing two and five genera. Five sections are suggested for the Helicidæ, namely, Protogona, Macrogona, Teleophallogona, Epiphallologona, and Belogona, and these contain as many as fifty-two genera. Besides these, four other genera of doubtful affinities are included in this family. A synopsis of all the genera of these two families is followed by two keys to them, one derived from anatomical, the other from shell characters. The remainder of the forty-eight introductory pages of this volume contain remarks on the distribution of Helices in time and space, instructions with regard to the preparation of land-snails for anatomical study, and a short note on nomenclature. The bulk of the volume consists of detailed descriptions of the various genera, an account of their mutual relationship, the facts in connexion with their geographical distribution, and, finally, what will be most useful and valued by the collector, a list of the species included in each genus. The pictorial portion of the work consists of 71 plates, containing 561 figures of shells and 571 illustrating the anatomy; and of these 330 were drawn by the author.

From our own experience, and from the opinions expressed by practical conchologists, we can speak with much confidence of the great merit and usefulness of this work; and Mr. Pilsbry is to be congratulated upon the completion of a book entailing such a vast amount of research and containing a classification of such an enormous group as the Helices, which will be indispensable to the student of land Mollusca, and, indeed, will form for many years to come the standard work upon the subject treated of.

In conclusion, we would express the hope that Mr. Pilsbry may be induced to undertake a companion volume on the Zonitidæ and Agnatha, which is hinted at in his prefatory remarks.